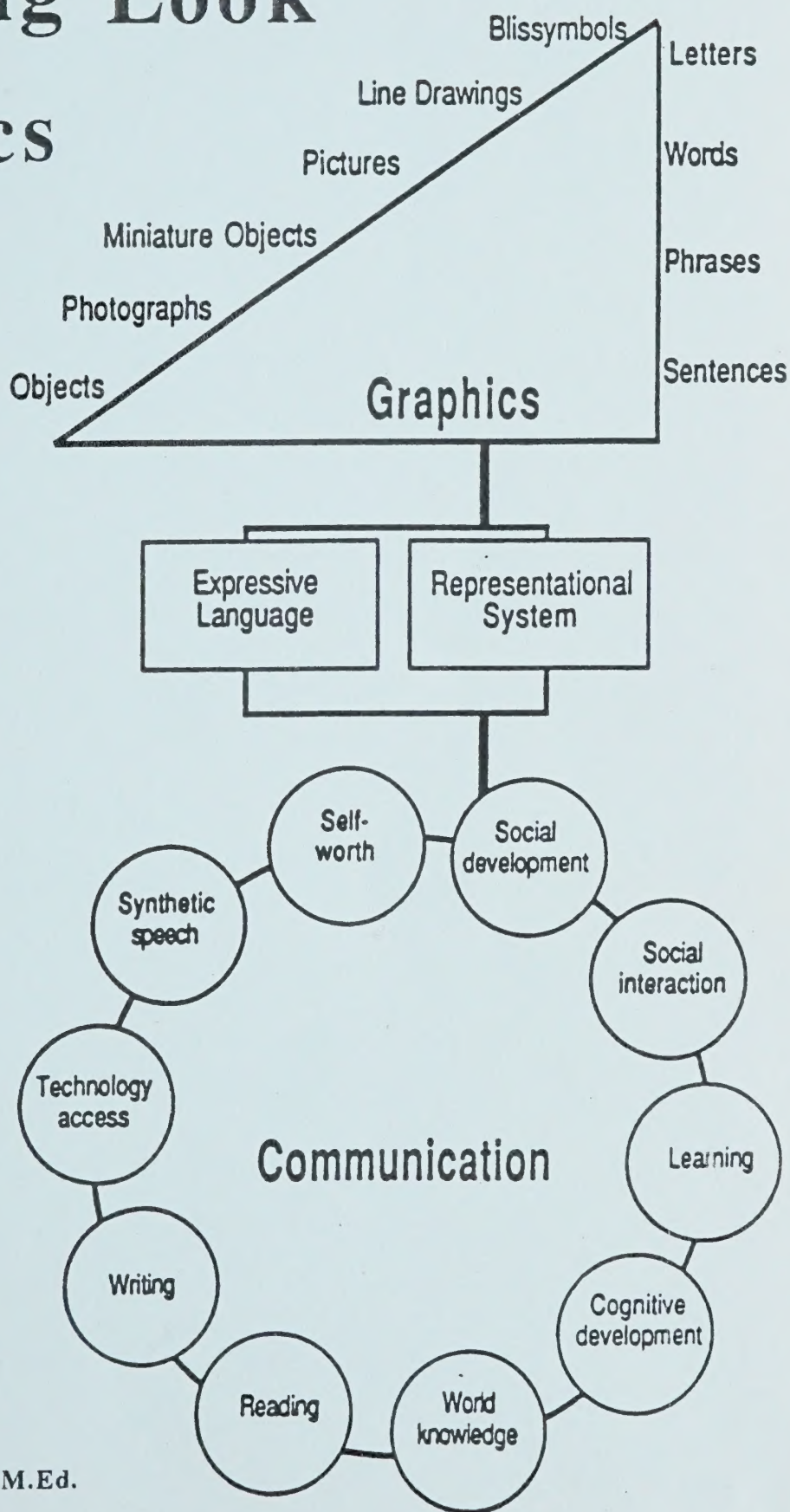


# A Beginning Look at Graphics





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# **A Beginning Look at Graphics**

prepared for

Developing Countries Committee  
ISAAC  
International Society  
for Augmentative and Alternative Communication

by

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**1989**

based on materials  
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## Preface

The information contained in this paper is based on the experience of AAC consultants working at the Easter Seal Communication Institute (ESCI), Toronto, Canada.<sup>1</sup> ESCI's service programme was established in 1985 to respond to the educational needs of AAC users in the province of Ontario. Since its inception, ESCI has shared the same location and has had a close working relationship with Blissymbolics Communication International (BCI). This association has strongly influenced ESCI in its perspective with regard to graphic symbols.

ESCI has developed a data base for eight graphic communication sets and systems that are used in North America. In addition, ESCI has access to extensive information from BCI with regard to Blissymbol applications in Ontario since 1971, and in over thirty countries around the world since the mid seventies.

In writing this paper at this time, I wish to emphasize that there is still very much to be learned with regard to graphic symbols as they are used within Augmentative and Alternative Communication (AAC). The ideas presented represent one perspective. Key words have been boldfaced and underlined throughout the text to indicate the author's emphasis and for ease of reading. A reference list is included at the end of this paper. Readers are encouraged to examine many perspectives and many sources of additional information relating to graphic symbols.

In the future, I hope that further attention will be given to the capabilities of various symbolic graphic systems and sets, and that through research studies we will learn more about the possible effects of system features upon communication competence and upon cognitive, language and literacy development. We will then be able to refine our knowledge and be more discriminating in the approach we use for each individual in supporting his/her use of graphics. I look forward to the time when we will have more information derived from documented studies to augment our knowledge of AAC graphics from clinical and educational sources. In the meantime, I offer A Beginning look at Graphics.

Shirley McNaughton  
November, 1989.

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## A Beginning Look at Graphics

### SELECTING GRAPHICS FOR COMMUNICATION BOARDS

It's an important decision! Graphic symbols are the AAC user's way of telling the listener or the communication device what he/she wants to say. **Each symbol must be easily recognized and understood by the AAC user.** Time for the nonspeaking individual is precious and our goal is that the individual learn the symbolic representations and use them in interactive communication as quickly as possible. Additional consideration, however, must be given to the need for each symbol to relate to the individual's previous knowledge with regard to an item, idea or event, and to the long term value of the symbol for the individual's language, cognitive and literacy development. For as well as serving as a medium for **expressive language**, the graphic symbols are the individual's means for representing ideas - his/her **symbolic representation system**. Limited understanding by the individual, regarding either the meanings represented by the symbols or the manner in which the symbols portray meanings, could have a detrimental effect upon the individual's learning of the symbols and upon future learnings relating to the concepts represented.

### Points to remember about graphic symbol communication

1. **Each AAC user will best learn, remember and use a symbol that relates to his knowledge of the thing, idea or event.** A learner more readily forms associations between the symbol and what it represents when the symbol is consistent with what is already known.
2. **Each AAC user should have the highest level of graphic symbol that he/she is capable of learning,** in order to achieve his/her best level of communication competency and his/her broadest access to concept learning and world knowledge.
3. **The symbols used by an individual contribute to his/her conceptual map of the world.** Major changes to the type of symbols used by an individual should be carefully and cautiously planned. Consideration as to the individual's **future graphic use** should be undertaken when his/her **first graphics are introduced.**  
(See point 6.)

4. The way in which the symbol is taught influences the way in which the augmentative communicator uses the symbols and the way listeners regard his/her symbol communication.

5. The type of symbols and the way they are used influences the AAC user's communication competency, cognitive development, language development, social development, feeling of self worth, the way in which technology is accessed and the attitude and response of listeners.

6. In deciding about the most appropriate graphic symbol system or set for an individual, goals - both short term (speed of learning) and long term (benefits to be derived in addition to communication) - should be considered.

### What are the questions that need to be asked?

When considering different graphic sets and systems, we need to examine whether or not our questions are relevant:

Which is the <u>best</u> graphic communication system?	NO
What <u>combination</u> of graphics, <u>at this time</u> , best meets the <u>individual's</u> short and long term needs?	YES
What is the <u>best way of representing each concept</u> for the individual?	YES
Should I investigate whether or not the individual is able and <u>ready to benefit</u> from a symbol <u>system</u> ?	YES
How can the <u>system's rules and structure</u> be maintained and applied when combining different systems and sets?	YES

### The Role of the Graphic Communication System

Graphics are an important component within the individual's communication system. They affect the **quality of communication** by the topics and the level of interaction they permit. They influence the **concept the AAC user has of himself/herself** and the **image others have of the AAC user**. They portray to the world and to the user the type of communication of which he/she is capable. In addition to their communication role, graphics contribute to the **individual's social, emotional and cognitive development** and to his/her educational program.



## **LISTENER CONSIDERATIONS**

Listeners can understand the meaning intended in several ways:

1. They can read the **words** accompanying the symbols.
2. They can understand and respond directly to the **symbols** used by the AAC user.
3. They can interpret **pictures** that accompany the symbols used by the AAC user. The pictures will have been added to accommodate the needs of listeners who cannot read the words accompanying the symbols and who don't understand the symbols.

## **GRAPHIC CONSIDERATIONS**

There are many graphics to choose from. It helps if the **options are identified as either a symbol set or a symbol system.**

"A symbol set is a **defined set of symbols that is closed in nature**; it could be clinician-produced or it could consist of purchased symbol books, stamps, and/or cards containing a limited number of symbols. A symbol set can be expanded, but it **does not have clearly defined rules for expansion**." (Vanderheiden & Lloyd, in Blackstone(Ed.),1986, p. 71).

"A symbol system refers to a set of symbols specifically **designed to work together to allow for maximum communication**. Symbol systems **include rules or a logic** for the development of symbols not already represented in the system." (ibid).

If a **system** is being introduced to an AAC user, its **structure and rules should be understood by the instructor.**

## Some of the choices in North America:

### SETS

- objects and miniature representations of objects
- photographs
- pictures produced by instructor
- commercial pictures and line drawings
  - Picture Communication Symbols (PCS); Oakland Picture Dictionary; Pictogram Ideogram Communication (PIC); Core Picture Vocabulary; Sigsymbols; Rebus.

### SYSTEMS

Picsyms  
Blissymbolics  
traditional orthography

Examples of some of the above graphics are shown in Appendix A.

## HOW CAN WE COMPARE THE DIFFERENT GRAPHIC SYSTEMS?

With an individual in mind, we can examine graphics from several perspectives.

### I Size, content and organization of vocabulary

### II Some practical considerations:

1. What documentation is provided?
2. How available are the instruction and communication materials?
3. What support services are offered to the instructor?
4. What knowledge is required of the listener?
5. What is the system's potential for promoting cognitive growth?
6. What are the particular strengths of the symbols?

See Appendix B for responses to the above questions from several manufacturers.



### III Some theoretical considerations:

1. We can look at whether the symbols are contained **within a set or a system**. If we are dealing with a system, we can examine the system's structure and rules.

2. We can consider the rationale and the **primary reference** for the system's or set's symbolic representation.

Does the symbol rely on **letter-sound relationships** as with words?

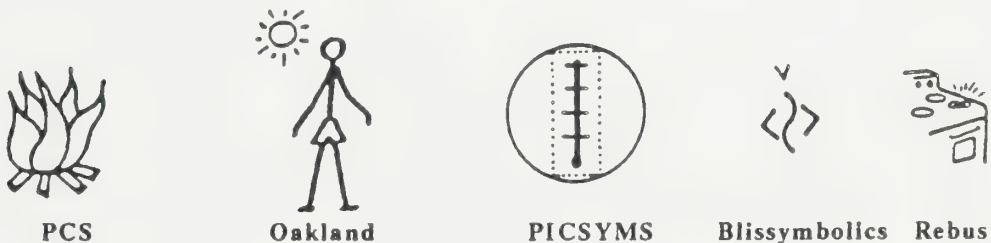
Is the symbol a **direct representation** of an object or event as with pictures and line drawings?

Is the symbol a **logical, meaning-based depiction of the meaning** intended as with Blissymbolics and Picsyms?

Does the symbol portray the **body movement, hand shape and/or hand position of a sign or gesture**, as with Sigsyms, Worldsign and the graphics used with Voice Shapes?

Does the symbol rely for meaning upon an **association with other related concepts** as with Minspeak and Words Strategy?

3. We can look at the **way in which a specific symbol depicts meaning**. e.g. hot



In the above examples, the meaning "hot" is represented by relating to: a campfire; an individual wearing shorts and the sun, depicting warm weather; the thermometer indicating a high temperature; a stylized drawing of a flame with pointers indicating heat emanating from the flame; an object (stove) that can get hot when we are cooking food;

For further examples, see Appendix A.

#### 4. We can look at the **conceptual properties** of the symbol.

- How **iconic/abstract** are the symbols?

We can respond to this question by considering a specific graphic on a **continuum ranging from iconic and direct representations** of the item as in pictures and detailed drawings, through a **stylized representation** as in many line drawings, Picsyms, PIC, and Blissymbols, to **abstract representations**, as in letters and words, the arbitrary Picsyms, PIC and Blissymbols and the Yerkish lexigrams (Rumbaugh, 1977).

- How much **detail** is given?
- Does the symbol portray the **whole, or part**, of the object, event or idea being represented?
- Are there several exemplars serving to represent a class or just one exemplar?
- How representative of the **class** are the **exemplars**, given the experience of the individual for whom they're being considered?
- Is the symbol intended for a **child or an adult**?

#### 5. We can look at the **visual properties** of the symbol.

- Is the drawing **clear and realistic**?
- Is the **colour** appropriate?
- Is there a good balance between **figure and ground**?
- Is the **size** of the drawing and the **use of space** appropriate?
- Is the **line thickness** supportive to the clarity of the drawing?

#### **IV System structure and rules:**

1. We can look at the **capabilities and learning opportunities** of the system, that can be derived from its **structure and rules**.

- What **strategies** does the system provide for?
- How does the system allow **abstract concepts** to be represented?
- How many of the **grammatical capabilities** of the AAC user's native language does the system provide for?
- Does the system provide for **independent vocabulary expansion** by applying the system's rules?
- How **consistent** are the system's rules, in their application within the symbols of the system?
- How much **redundancy** is there within the system: i.e. How much can the information available in one symbol be used in the identification of other related symbols?
- Can the system support **pre-reading experiences** (if this is required)?
- Can the system serve as a representation base for accessing **synthetic speech**, should this be required?
- Can the system's symbols represent **phrases and sentences**, as well as words and individual concepts?

#### **AAC USER CONSIDERATIONS**

##### **Questions to ask regarding symbols**

Here are four immediate questions/tasks to guide your examination of specific symbols:

- A. What must the learner know in order for the picture/symbol to be meaningful to him/her?
- B. Is the picture/symbol generalizable?
- C. Comment on the "picture" qualities.
- D. Comment on possible teaching support.

Here are some general considerations to structure your study of symbols:

### **1. Can the individual perceive them?**

- Consider the individual's **visual acuity**.
- Consider the individual's ability to utilize **colour cues** to relate to the **meaning** of symbols.
- Consider the individual's ability to respond to **figure/ground** information.
- Consider the individual's ability for **closure** (supplying information missing in a symbol, by applying past experience and knowledge of the concept being represented).
- Consider the individual's needs with regard to **symbol size** and **spacing**.

### **2. Can the individual understand them?**

- What **types of representation** does the individual understand?
- What **symbols exist** for these types of representation?
- How much **time, effort (and frustration)** can the individual invest in new learning?
- What **adaptations (for the individual)** can you make in mixing symbol sets with a system without compromising the structure and rules of the system?

### **3. Can the individual use the symbols for pre-literacy experiences?**

- Consider the availability of books and resource materials for **reading and writing using the symbols**
- Consider the availability of computer software for **reading and writing using the symbols**.

### **4. Can the individual use the symbols to access synthetic speech?**

- **Plan ahead** so that it will be possible, if the individual desires, for he/she to choose to use the **same symbolic representation system** for both his/her communication board and voice output device.



### From clinical experience:

The following are some **ideas/suggestions** from **two experienced clinicians**, from their presentations at a Graphics Seminar, April, 1987, hosted by the Easter Seal Communication Institute.

**Ellen Kravitz**, in discussing pictures:

- Photographs run the risk of being interpreted **too literally**;
- The value to be derived from colour **varies with the individual**. It is best when colour is used sparingly and when there is a clear association between the colour used and that of the actual object;
- A picture should be **selected from several** and should be chosen to **suit the individual**;
- The meaning should be taught **within the environment** in which it is naturally used and in a way that is meaningful;
- The instructor should always remember **two levels of complexity**
  - that of the **concept**
  - that of the **symbol**, representing the concept.

**Gail Van Tatenhove**, in discussing assessment:

For the child **under language age 3**, one should first consider **individualizing pictures**, giving careful thought to **visual and conceptual style** of the representation. Features should be incorporated that will make the picture learnable.

For the child **over language age 3**, one should seek the **richest, most generalizable symbol** that the child can relate to and one that will facilitate the learning of the **most abstract level** that can be acquired by each child.

## **Questions to ask about the display used as an individual's communication board:**

### **1. Can the individual perceive the display?**

- Consider the individual's **visual acuity**.
- Consider the individual's **field of vision**.
- Consider the individual's ability to utilize **colour cues** for **locating categories** of symbols.
- Consider the individual's needs with regard to **symbol size and spacing of symbol groupings**.
- Consider the individual's ability to respond to **figure/ground** information.

### **2. Can the individual understand the display?**

- Consider the individual's **ability to interpret the number of symbols** on the display.
- Consider the individual's **information capacity** and his/her ability to **understand the organization** of the display.
- Consider the individual's ability to understand the **communication for which the display was designed**.
- Consider the **relative size of the symbols and words** on the display. Do the words gain in prominence as the individual approaches the **reading of his/her native language**?

### **3. Can the individual use the display?**

- Consider whether or not the individual has the **physical capabilities** to access all items on the display. This is strongly affected by **positioning**.
- Consider whether or not the individual has the **communication competencies** to make full use of the display. (See point 1, page 14.)

## Points to remember about communication displays

- Communication displays always have value for certain communication situations, even when the AAC user is fluent in other modes of communication, e.g. synthetic speech or signing.
- Information explaining how the individual communicates and what is required from the listener, is always needed.
- There are major differences between an individual's initial, transitional and advanced displays:

### INITIAL DISPLAY

- teaches and reinforces the value of communication
- introduces the individual's representation system
- presents the individual's beginning vocabulary
- allows for rapid vocabulary growth
- offers initial structure to the vocabulary
- prioritizes needs

### TRANSITIONAL DISPLAY

- provides evaluation opportunities as to appropriateness of initial representation system and display organization
- accommodates growing vocabulary
- allows for restructuring of vocabulary based on experience
- provides AAC user with opportunities to assume more decision-making with regard to vocabulary and its organization

### ADVANCED DISPLAY

- should be planned and directed by AAC user as much as his/her capabilities allow
- should always grow and change
- should be integrated into the individual's total communication system, i.e. serve as a complement to synthetic speech or signing.

- Planning should take into account supplementary, theme and situational displays as well as core displays.
- Different sized displays are needed for different situations.
- Different levels of difficulty are needed for displays for different listeners.
- The AAC user should assume control over what is on the display and how it is arranged, as he/she achieves communication competency.

## In making a display

1. Consider the individual's communication competencies<sup>2</sup>, cognitive level, experiences, communication needs, interests, and his/her opportunities for using the display.
2. Respond to the individual's preferences regarding content, organization and layout, while supporting metalinguistic learnings through the overall structure of the display.
3. Ensure that the display has immediate functional use.
4. Make the display attractive, enjoyable and easy to use.
5. Plan for change and expansion of the display.
6. Allow for strategy use and problem solving.
7. Consider physical accessibility of vocabulary items.
8. Consider fatigue/energy factors, fine motor requirements and visual discrimination capabilities in the placement of symbols on the display.
9. Include the family and significant others within the vocabulary selection and arrangement process.
10. Never compromise the rules or structure of the dominant system when designing a mixed communication display.
11. Support the AAC user in assuming as much responsibility as his/her capabilities allow.
12. Some important vocabulary categories
  1. Needs and interests
  2. Important people
  3. Significant events
  4. Significant activities
  5. Recurrence and stopping
  6. Emotion words
  7. Greetings
  8. Confirmation and negation
  9. Reference and description
  10. Questions

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<sup>2</sup>See J. Light. Toward a Definition of Communication Competence for Individuals Using Augmentative and Alternative Communication Systems. AAC Augmentative and Alternative Communication. Volume 5/Number 2, June, 1989.



## **Graphic Communication Systems for Developing Countries**

The information contained within this paper has been based upon experience gained in North America with English-speaking individuals. Hopefully the knowledge of those who have been using the graphic communication systems during the seventies and eighties will be of benefit to those who first apply graphics with AAC users in other parts of the world in the nineties. However, the relevance of North American experience for cultural and national groups that are non English speaking and non North American needs to be very carefully considered.

Caution must be used in providing the symbols designed for North American individuals to persons with different experiential and knowledge bases. Because the symbols serve as an individual's representational system as well as his/her communication system, it must always be kept in mind that the symbols must relate to the world in which the AAC user lives. In this regard, the more abstract the symbols, the less culturally biased they will be and the more appropriate they will be for international use. For those who can learn abstract symbols, the system of Blissymbolics has been demonstrated as appropriate, with minor modifications, in over thirty countries with fifteen different languages. In considering the more concrete pictures and line drawings that are required as a beginning step for many individuals, professionals would be well advised to rely upon the art styles of their own cultures and develop pictures with familiar forms that match the individual's world experiences.

This paper is offered as an introduction to graphic communication systems for those outside North America who are planning to embark upon communication programs. Hopefully the information provided will serve as a useful reference for initial applications. Professionals responsible for AAC programs are urged to undertake further reading to gain knowledge of the varied current perspectives with regard to graphics and to be ready for the new information to be derived from future research and applications.

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## **Sources for further information**

### **For references relating to Graphics:**

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### **For information re commercially available materials:**

#### **Blissymbolics**

Blissymbolics Communication International,  
 250 Ferrand Drive,  
 Don Mills, Ontario,  
 Canada M3C 3P2  
 phone 416-421-8377  
 fax 416-696-1035

#### **Core Picture Vocabulary,**

Don Johnston Developmental Materials,  
 P.O. Box 639,  
 1000 North Rand Rd.,  
 Bldg. 115,  
 Wauconda, ILL. USA 60084.

#### **Foto Foods,**

Communication Skill Builders, Inc.,  
 313 North Dodge Blvd.,  
 Box 42050-H,  
 Tuscon, AR, USA 85733.



**Oakland School Picture Dictionary**

Oakland Schools,  
 Communication Enhancement Center,  
 2100 Pontiac Lake Rd.,  
 Pontiac, Mich., USA 48054.

**Picsyms Categorical Dictionary**

Baggeboda Press,  
 1128 Rhode Island Street,  
 Lawrence, KS, USA 66044.

**Picture Communication Symbols,**

Mayer-Johnson Co.,  
 P.O. Box 1579,  
 Solana Beach, CA 92075-1579,  
 USA.

**PIC (Pictogram Ideogram Communication),**

The George Reed Foundation for the Handicapped,  
 P.O. Box 1547,  
 Regina, Saskatchewan, Canada.

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Communication Skill Builders, Inc.,  
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**Rebus,**

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**Sigsymbols**

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AL108TX, UK.

(2) Dr. Lyle L. Lloyd,  
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**Talking Pictures**

Crestwood Company,  
P.O. Box 04606,  
Milwaukee, WI. USA 53204.

**Vee's Verbs,**

Word Making Productions,  
70 West Louise Ave.,  
Salt Lake City, Utah, USA 84115.

**Word Making Cards**

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70 West Louise Ave.,  
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**Worldsign,**

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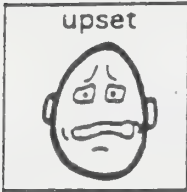
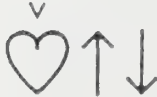
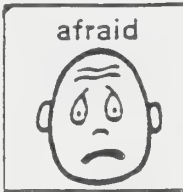










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Dr. Howard Shane,  
Director Communication Enhancement Clinic,  
Hearing and Speech Division,  
Children's Hospital,  
300 Longwood Ave.,  
Boston, Mass., USA 02115.






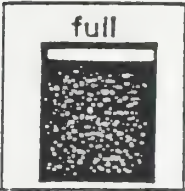










# Verbs

	PCS	Oakland	Picsyms	Blissymbols	Rebus
sleep					
drink					
sit					
play					
(be) read (to)					
finish(ed)					

# Feelings




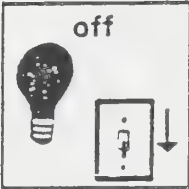


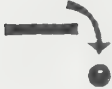
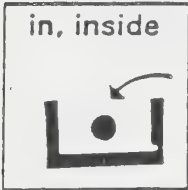




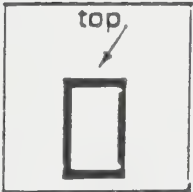



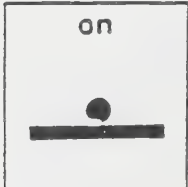




	PCS	Oakland	Picsyms	Blissymbols	Rebus
happy		 happy	 HAPPY		
sad		 sad	 SAD		
upset					
frightened		 afraid	 AFRAID		
angry		 angry	 MAD		
safe					

# Quantity concepts

	PCS	Oakland	Picsyms	Blissymbols	Rebus
big					
full					
all gone					
long					
more					



# Spatial Concepts

	PCS	Oakland	Picsyms	Blissymbols	Rebus
up					
off					
inside		 in			
top					
on		 on			

# Abstract concepts, social phrases

PCS

Oakland

Picsyms

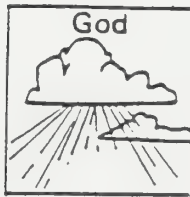
Blissymbols

Rebus

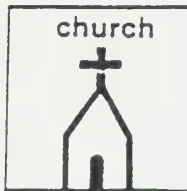
to be



God



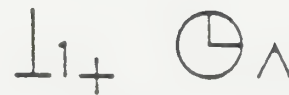
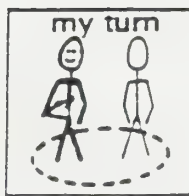
church



CHURCH



my turn



ready



# Mayer Johnson Co

## PICTURE COMMUNICATION SYSTEMS

1. Documentation provided: None at this time.
2. Availability of instruction and communication materials: The PCS includes 1" & 2" picture symbols for over 700 words. We also provide a guide with the PCS which includes information concerning:
  - A. The symbol design, sizes, categories, and color coding recommendations.
  - B. What type of individual might find the PCS useful.
  - C. How to create a non-verbal aid. Practical suggestions and guidelines for the novice are included as well as a sample communication board.
  - D. Training suggestions and strategies for both the person learning to use the aid and his/her listeners. Included are two record-keeping sheets that may be used during training, as well as sample IEP goals.

In the 1982 ASHA materials review, the PCS guide was described as containing "many practical ideas and suggestions for designing, implementing, and incorporating communication aids into the environment" ... "written in a clinical manner" ... "a useful source of information for parents, caretakers, and staff from educational and vocational settings" ... "clearly written."

3. Support services offered to the instructor: The guide and its bibliography.
4. Knowledge required of the "receiver": One of the biggest strengths of the PCS is its simplicity. Very little training is needed by the receiver. The word that the symbol stands for is printed above each symbol. If the listener cannot read, he can usually learn the symbols quickly.

The PCS guide discusses four areas that are often advisable to review with the "listeners." These four recommendations are applicable to all communication board "listeners", not just for PCS users.

5. System's potential for promoting cognitive growth: The PCS improves cognitive growth by improving the individual's communication skills. As these skills improve, so does the opportunity for cognitive growth.
6. We feel the particular strengths of our symbols are the following:
  - A. They can be relatively quickly learned by almost everyone.
  - B. The symbols are very simply drawn for easy recognition and differentiation from one another. There are no small details that need to be noticed to recognize the symbols in most instances.
  - C. They are appropriate for all age groups.
  - D. They can be duplicated easily and are, therefore, economically practical as well as convenient for the communication board that is continually being adapted and changed.
  - E. They come in two sizes (1" and 2") for added flexibility.
  - F. They are organized into category areas and alphabetically so they are easy to locate.
  - G. We provide several different sizes of grids and different types of aids designed especially for our symbols that make creating an aid simpler.
  - H. Everyone who buys our symbols automatically receives the guide at no extra cost. Therefore, the practical information contained in the guide is available for everyone.

Roxanna M. Johnson



# WORLDSIGN COMMUNICATION SOCIETY

PERRY SIDING, WINLAW, B.C., CANADA

VOG 2J0

(604) 355-2408

There are a number of different Worldsign paths, the Augmentative/Alternative Communication path is one of these. I know that I can't possibly explore fully all the different possible paths; my hope is that different people will simultaneously do this exploration and the necessary development. The role of the Worldsign Communication Society will be to provide suggestions and to facilitate inter-exchange and communication among the participants.

I believe that Worldsign, with its three channels of Signing, Writing and Animation (animated time varying symbols for film, video and microcomputers) plus a fourth channel when speech is combined with signing, has much potential for general use. For example, I believe that all preschool children would benefit by being introduced into written language through a concept based evocative symbol system such as Worldsign prior to learning an alphabetically based language. I do not want to lose sight of this general use of Worldsign. I also believe that the child with a communication handicap would be best served if the augmentative/alternative system he or she were learning had a general appeal and acceptance.

1. Documentation provided: I'm assuming you mean documentation of a scientific nature (research and the results of research). Worldsign is at too early a stage for this to have happened.
2. Availability of instruction and communication materials: This Fall our new Symbol Book will be available plus a small book of Worldsign Examples plus a variety of separate papers. Within six months we plan to have available a series of instructional videotapes.
3. Support services offered to the instructor: Although at present we don't have any specific support service which is offered to potential instructors, we do promise that wherever there is sufficient interest,



we will set up a training program in Worldsign. (I should mention that I personally feel strongly that, unless Worldsign is to become more than just a vocational tool for the instructor, unless Worldsign becomes a valued part of the instructor's total life to the extent that it would be naturally used in personal writing, sign/speaking and think/feeling, I would think the effort would be of limited worth.)

4. Knowledge required of the "receiver": Worldsign symbols are sufficiently flexible so that for young children first learning to read symbols, for retarded persons, a more iconic form of graphic would be used. There would be more marks of identity such as eyes, nose etc. Likewise, the signing would be of a more iconic nature. With animation to give additional information, the prior knowledge required of the "receiver" would be very minimal.
5. System's potential for promoting cognitive growth: I would say that Worldsign's capability for promoting cognitive growth is very great although this, of course, is something that is not presently documented. The fact that one can sign and write about very subtle, involved subject matter in Worldsign would suggest this. Also, because the two primary ways of thinking with symbols seem to be through a verbal channel and through a visual/kinesthetic channel, and since the nature of Worldsign is primarily visual/kinesthetic, it would seem that for people having difficulty with verbal communication, Worldsign offers distinct possibilities. Also, for any individual there could be advantage in learning a language which would utilize brain areas not normally used in verbal activity.

I can understand and truly appreciate where you are coming from in regards to your approach to evaluation. From the standpoint of some additional concerns, my list would be somewhat different.

I am interested in the number and nature of the channels for any symbol system.

I am interested in the forms in which the symbol system can be used. Can it have a dance/drama form for example?

I am interested as to whether the writing system, if it exists, has both a readily identifiable form, ( a more iconic form), and a more abstract form .... or does it have one standard form.

I am interested in whether the symbols can be suitably animated.

I am interested in whether the symbols are culturally specific or trans-cultural.

I am interested in whether the syntax is flexible or tied to a specific spoken language.

I am interested in what brain areas are involved while a person is using the system.

I am interested in how well the system can be used as a vehicle for thinking.

I am interested in whether the symbol system is a "dead end" system or whether after simple thoughts have been expressed there is the opportunity for a growing profundity.

Inasmuch as every language is to a degree biased, I am interested in the nature of this bias.

I am interested in how flexible the symbols system is...whether other people are invited to use it creatively (and hence make changes), or whether this is discouraged.

I am interested as to how well the system could be used as a bridge to other symbol systems (for example, as a bridge to English or French).

David Orcutt

## **PICSYMS**

### **1. Documentation provided:**

I haven't done any scientific, data-based studies on the system myself. I try them out with children, parents, teachers, and students that are here in the clinic or at workshops, and then make modifications on symbols or levels that don 't work.

### **2. Availability of instruction and communication materials:**

A dictionary of 900 or so symbols plus directions, is available from Baggeboda Press, 1128 Rhode Island Street, Lawrence, KS, USA, 6604.

### **3. Support services offered to the instructor:**

It works best to learn via a workshop, and that is best done in a full day. Because it is a generative system, the individual working with the child needs to learn how to generate their own.

### **4. Knowledge required of the "receiver":**

The experience of myself and others working with Picsyms has been that the receiver needs little or no introduction to the symbols when used in context because they are very iconic. The users don't need training to learn specific symbols if they are visually and cognitively at the level where they can handle simple pictures. If introduced in a communicative situation, they usually begin to use them immediately. The lower level symbols can be colored appropriately. This is almost a requirement for some food items.

Faith Carlson

## **Blissymbolics**

### **1. Documentations provided:**

See Blissymbolics reference list that follows.

### **2. Availability of instruction and communication materials:**

Write Blissymbolics Communication International (BCI),  
250 Ferrand Drive,  
Don Mills, Ontario,  
Canada M3C 3P2; phone 416-421-8377 fax 416-696-1035

### **3. Support services offered to the instructor:**

Contact BCI for training schedule.

### **4. Knowledge required of the "receiver":**

The "listener" can read the words that always accompany Blissymbols on communication displays. For a greater understanding of the meaning of each symbol, Blissymbols for Use is recommended as a reference. For a short introduction to Blissymbol use, Introducing Blissymbolics - A Guide for Parents and Friends of Symbol Users by Leesa Owram is recommended. Available from BCI.

When Picture your Blissymbols is used, again the accompanying words can be read by the "listener" but as well, the coloured enhancements provide the "listener" with additional information as to the meaning intended by each Blissymbol. The Instructional Guide to Picture Your Blissymbols provides explanatory information to support the use of Picture Your Blissymbols.

### **5. Systems potential for promoting cognitive growth:**

The use of Blissymbolics, along with all of the benefits to be derived from communicating more effectively, helps the student formulate and clarify concepts, organize information and utterances, understand and appreciate the structure of language and be creative with symbols and words.

Shirley McNaughton

## Blissymbolics

Blissymbolics is a pictographic, ideographic symbol system that was originally developed by Charles K. Bliss as an international communication system. His intention was to provide a graphic medium that could be used by persons with different spoken languages, following the centuries-old model in China. The system was designed to communicate the maximum breadth of information with a minimum set of symbols.

Blissymbols are composed of meaning-based units, some of which depict the outline shape of the concept represented (pictographic), others utilizing shapes relating to an idea associated with the referent (ideographic). Whether the Blissymbol consists of one unit or several, it is intended that the root meaning of the symbol be explained in a way that relates to the cognitive level of the learner.

Through licensing agreements with C.K. Bliss in 1975 and 1982, the Blissymbolics Communication Institute has legal authority to provide a worldwide standard for all published Blissymbols. This responsibility is interpreted by the Institute as requiring support to Blissymbol use through (1) training programs, (2) publishing of communication and support materials, (3) updating users and instructors through the Blissymbol News section of Communicating Together and (4) maintenance of an international Affiliate network, International Panel and System Committee to



ensure informed and ongoing system development. To further support the system's growth in response to knowledge and experience in the broad field of Augmentative Communication, the Blissymbolics Communication Institute established, in 1985, a program called Augmentative and Alternative Communication in Education (AACE) to provide support to educators and families of nonspeaking students in the province of Ontario. This allows BCI to remain in close association with the practical communication needs of augmentative communicators.

The original 1400 Blissymbols published by BCI tend to represent general concepts rather than specific instances. New Blissymbols are being added annually to the vocabulary; because they maintain the logical sequencing of meaning-based units, these symbols provide rather abstract representations of concepts (see "cookie", candy", Figure 3-5). To offer concrete and pictographic support to the beginning Blissymbol user, without reducing the logical composition of Blissymbols, Picture Your Blissymbols has been developed by BCI. By adding coloured illustrations to the Blissymbols, students can be introduced directly to a system offering longterm, broad usage. Picture Your Blissymbols can be introduced in the form published by BCI or with embellishments added by the instructor to provide personally meaningful information to the learner. As the student progresses, the illustrations can be removed and the strategies of the system of Blissymbolics (e.g. opposite meaning, combine symbol, part of) and of traditional orthography (initial

Blissymbol instruction requires an understanding of the logic and meaning-base of the system. This necessitates a time investment on the part of both instructor and learner. The system allows for communication on a broad range of topics even though a limited number of symbols are usually available to the user. Blissymbols have an advantage over pictures through the generic or concept base of the symbols and the ease with which Blissymbols can be combined to cue a word not on the communication chart.

The relatively simple line shapes of the Blissymbols allow them to be easily written by hand or displayed or printed with computers. As a result, Blissymbols lend themselves to a written pictographic form of communication, providing a valuable bridge to traditional orthography (TO). For students who are able to progress to reading and writing in TO, their experiences in reading and writing Blissymbols can be related directly to all school language arts learning activities (McNaughton, 1985, p 164). Vanderheiden and Kelso (1982), within the Blissapple software, provides the capability of producing all of the Blissymbols through flipping, sequencing or rotating symbol segments. Several Blissymbol software programs provide students with activities to further their learning of symbols, their understanding of concepts and their writing and reading of both Blissymbols and words.

The major strengths of Blissymbolics lie in (1) the system's generativity through its principles and strategies and the inter-relatedness of its meaning-based parts; (2) its capability of serving as the user's basic system through initial use with Picture Your Blissymbols, its potential for broad communication board use along with other techniques, and its preparation for traditional orthography by writing and reading Blissymbols; (3) the support provided by the Blissymbolics Communication Institute through training, publications and ongoing system development; (4) the richness of the system in providing teaching opportunities directed toward cognitive and language development.

#### References:

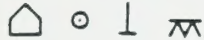
- McNaughton, S. (Ed.) Communicating with Blissymbolics. Toronto, Canada: Blissymbolics Communication Institute, 1985.
- Vanderheiden, G. and Kelso, D. "The Talking Blissapple -- A Multifunctional Program for Displaying/Printing/Speaking BLISSYMBOLS". Proceedings of Computers and the Handicapped Workshop. Ottawa, Canada: National Research Council, June 1982.

# BLISSYMBOLICS

## Classes of Blissymbols

### Pictographs

house eye person animal



### Ideographs

mind feeling protection electricity



### Arbitrary

action value creation past present future  
evaluation nature



### International in Origin

up down forward addition belongs to, of (possessive) and also with (the help of)



## Composition of Symbols

### Simple

water, paper, sky earth  
liquid page



### Compound Superimposed

water sky cloud  
liquid



water down rain  
liquid



### Sequenced

animal feeling pet



house feeling home



## Meaning Categories Within Blissymbols

People	Objects/Animals	Actions	Feelings	Ideas	Relationships
man 	sun 	(to) visit 	happy 	multiplication 	out, outside 
woman 	dog 	(to) see 	sad 	plural indicator x	in, inside 

## Ways to Expand Vocabulary

Strategy Symbols	Traditional Orthography	Indicators
opposite meaning  upset  calm  1 and 2 becomes 12  paper, water, liquid  navigation chart  1 and 2 becomes 12 	Bob  Mother Theresa 	eye saw (to) see will visual eyes  1 2 3 4 5 6 

## Blissymbols in Sentences



We enjoyed visiting your home yesterday and seeing Bob's dogs.



## Blissymbolics' References

- Bliss, C. K. (1965). Semantography (Blissymbolics) . Sydney: Semantography (Blissymbolics) Publications.
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